



**Maritime Alliance Group, Inc.**

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File No: B12-317

Port of: Washington, DC

Vessel: JOHN H. GLENN JR.

Date: May 21, 2012

Principals: DC Fire Department

Rig: Fireboat

## **REPORT OF SURVEY**

### **REQUEST**

On May 3, 2012, the undersigned was requested by Deputy Chief John A. Donnelley of the District of Columbia Fire & EMS Department, 1338 Park Road NW, Washington, DC 20010, to attend the fireboat JOHN H. GLENN JR., O.N. 289631, for the purpose of determining this vessel's general condition and principal characteristics, and against these to enter an opinion as to the vessel's suitability for service, and to recommend work items to be performed in an upcoming drydock availability.

This is to certify that on May 10, 2012, the undersigned did attend the subject vessel whereat same lay afloat at 550 Water Street SW, Washington DC 20024. A test run was not conducted. The vessel was in service and manned by its normal crew during our examination.

### **GENERAL PARTICULARS**

NAME: JOHN H. GLENN JR

Home Port: Washington, DC

Official Number: 289631

Builder: Diesel Shipbuilding Company

Built: 1962

LOA: 64.6 ft.

Beam: 21.0 ft.

Depth: 7.1 ft.

Gross Tons: 81

Net Tons: 55

HP: 3x450 BHP

General Description: Diesel propelled steel fireboat

Intended Use: Municipal firefighting, search and rescue

Current Owner: District of Columbia

Underwriter/Insurance Company: Self insured by District of Columbia

Current Insured Value: Not specified

Date Last Drydocked/Hauled Out: 2009 (emergency drydocking to repair collision damage; last scheduled drydocking at which all maintenance items were addressed was 2003)

The foregoing particulars are as reported, observed, and as abstracted from the USCG Port State Information Exchange database, and are believed to be correct.

#### SCOPE OF SURVEY

The purpose of a marine survey is to determine, insofar as possible within the limitations of visual and physical accessibility, through non-invasive and nondestructive means, the subject boat's structure, systems, cosmetics, and levels of compliance with the applicable Federal and state law as well as commonly accepted industry standards and practices.

Certain parts of a boat's structure, systems, and equipment can only be inspected after removing flats, bulkheads, joinery, headliners, tanks, etc. This would be prohibitively time consuming, potentially destructive, and costly to restore. Components requiring access with tools or by disassembly have not been inspected. Where dirt, marine growth, coatings buildup, or corrosion obscure the surveyor's ability to inspect, this limitation has been noted in the report. Conditions suspected or discovered using nondestructive methods may be further subject to invasive testing for confirmation. No invasive or destructive methods were used during the inspection without the express permission of the boat's owner or owner's representative.

Complete inspection of machinery, plumbing, electrical systems and available equipment can only be made by disassembly or by continuous operation. This has not been done, but may be recommended. No mechanical tests were performed on propulsion or auxiliary generating equipment. No fluid samples were drawn. Only the installation and external condition of machinery and accessory equipment was inspected. This should not be considered a complete mechanical inspection. Qualified marine mechanics experienced with the specific machinery installed should be employed to survey propulsion engines and auxiliary generators. The inspection of flexible piping was limited to the condition of its external casing only, and only where readily accessible for visual inspection.

Electronic and electrical equipment was tested by powering up and observing function.

No measurements were taken; no calibrations or adjustments were made. Batteries were not load tested. Only the external condition of electrical wiring, connections, and systems' installation was inspected. No attempt was made to perform a complete analysis of the vessel's electrical systems as to do so would require disassembly with tools, removals, etc to gain access to components.

Generally it is our experience that few boats surveyed today meet all of the applicable standards for marine electrical system fabrication and installation. This situation may be further aggravated by the wet and corrosive marine environment, and often by the owner's tolerance for poor installations, "do-it-yourself" add ons, and a general lack of preventive maintenance. Therefore, when the surveyor's limited visual inspection of an electrical system raises significant concern regarding standards compliance, the recommendation will be made to employ a qualified marine electrician for an in-depth inspection. Attention to compliance with electrical standards is critical to avoiding conditions which will lead to fires, explosions, and personal injury or death.

A test run is strongly recommended and conducted if requested by the client. The vessel must be operated by its owner or the owner's authorized agent. If no test run is requested, and if the vessel is afloat, operation of propulsion and auxiliary machinery and the steering system is observed in static mode. If the vessel is blocked ashore, no machinery is operated. Boats in a state of winter lay-up preclude operation of winterized systems.

A boat's systems and component parts have a limited useful life and must be considered perishable. Conditions affecting useful life include original material specifications, fabrication and manufacturing techniques, atmospheric exposures, history of use, etc. These systems and component parts often give no readily detectable external indications of deterioration and impending failure.

When relevant, the surveyor's recommendations are based on U. S Coast Guard Rules and Regulations for Uninspected Vessels, contained in Title 46 of the Code of Federal Regulations, Parts 24-28, as well as the voluntary STANDARDS AND PRACTICES FOR SMALL CRAFT, published by the American Boat and Yacht Council, and NFPA 302: STANDARD FOR PLEASURE AND COMMERCIAL MOTOR CRAFT, published by the National Fire Protection Association. It should be noted that, with the exception of those requirements for vessel identification, safety equipment, accident reporting, and pollution control, much of the current Federal law applies only to vessels equipped with gasoline engines (other than outboard engines) used for electrical or mechanical power.

The foregoing commentary is provided to give readers of this report an understanding of the survey process and its limitations. Since records of the boat's history of use and past maintenance are typically not made available to the surveyor, reported observations are necessarily limited to the boat's condition at the time the survey was performed.

Further qualifying remarks regarding a specific part of the report or its equipment may be found in the text of the report.

### CONDITIONS FOUND/ RECOMMENDATIONS

At the request of Deputy Chief John Donnelly, the undersigned surveyor examined the

fireboat JOHN H. GLENN JR., identified by Official Number 289631 at 550 Maine Avenue SW, Washington, DC, afloat. Access to the boat for inspection was granted by Deputy Chief Donnelly, on behalf of the District of Columbia Fire & EMS Department.

Unless noted otherwise, the boat's systems and equipment generally appeared to have been fabricated of materials suited to use in the marine environment, installed in compliance with applicable Federal law and commonly accepted marine industry practices, and appropriate to the boat's usual expected service. Deficiencies and recommendations for their repair or correction are listed throughout the report as applicable.

CONDITION	RECOMMENDATION
Hull plating (original thickness 7/32" to 5/16') last audio-gauged in 2003; vessel built in 1962.	Audio-gauge entire hull at upcoming drydock availability. Crop and renew any plating that has lost more than 25% of original thickness.
Internal examination reveals considerable pitting to hull plating in lazarette compartment, and a cement patch approximately 20"x20"x5" to bottom plating in starboard forward corner of lazarette.	Crop and renew pitted hull plating in lazarette area to good metal. Examine and evaluate sacrificial anodes and renew as needed while in drydock.
Forepeak tank not accessible for internal examination.	Open, ventilate, and make forepeak tank available for internal examination in drydock.
Bilge pumping arrangements (central 120 GPM pump with manifold, valves, and suctions in each compartment) does not provide for automatic operation or alarm of flooding conditions. Pump cannot presently take suction reliably from all compartments, and requires priming.	Add separate bilge pumps in each compartment, with automatic float switch operation and audible alarms. Overhaul current pump/piping as necessary to provide high-capacity flooding control as a backup to smaller individual automatic pumps.
Sea valves and sea chests last inspected in 2003.	Open all sea chests for internal examination and disassemble all sea valves for examination during drydock examination.
Six (6) bronze keel coolers provided for three (3) main engines. Keel coolers housed in steel shroud, not accessible for examination; one reported leaking coolant slowly.	Expose keel coolers for examination and pressure testing during drydock examination; repair as necessary
Three (3) Caterpillar Model 3406 diesel engines, new in 2003, each driving a separate propeller shaft; two engines also drive fire pumps. Crew reports no engine problems aside from the aforementioned coolant leak.	During drydock examination, measure bearing clearances at aft stern tube and forward and aft ends of strut bearings on all three (3) propeller shafts. Remove all three shafts for examination. Measure shaft run out for trueness. Repair or replace as necessary. Repair or replace strut tube bearings as necessary. Repack three (3) stern tube bearings and re-install shafts. Perform routine maintenance on engines as recommended by manufacturer.
Three (3) propellers last thoroughly examined in 2003 (sighted in 2009 emergency drydocking, but not serviced).	Examine three (3) propellers in drydock. Depending on conditions found, remove, repair, and balance as necessary.

Three (3) rudders last thoroughly examined in 2003 (sighted in 2009 emergency drydocking, but not serviced).	Examine three (3) rudders in drydock. Remove and repair as necessary. Replace bearings and repack shafts.
Two of the main engines drive fire pumps, serving a fire main system with 60 year old fire mains at 125 PSI. Clapper valves are reportedly not operating properly and are not accessible for examination.	Overhaul and pressure-test fire main system and pumps.
Vessel is equipped with a foam firefighting system including two (2) 150-gallon foam tanks. Black iron piping installed in 2003 as part of this system has developed leaks and has been replaced piecemeal. AFFF agent cannot be flushed from the system and is fostering corrosion at some pipe fittings. Tank manhole cover bolts are corroded and leaking. There is no provision for introducing alternate foam concentrate into the system for use in practice where AFFF agent cannot be discharged into the environment.	Clean out and repair existing foam system as necessary to eliminate leaks. Modify or replace system as necessary to provide means of flushing foam from the piping and to provide means of introducing foam concentrate in line via eductor(s), independent of the main foam supply tanks.
Vessel is equipped with an ICOM model M602 Marine VHF radio which has Digital Selective Calling capability, but this radio is not programmed with a Maritime Mobile Service Identity number or connected to the vessels GPS receiver. Therefore, the radio is not capable of transmitting an automated distress call, and may not properly display the identity or location of nearby vessels in distress.	Obtain and program an MMSI number into the radio; connect the radio to a GPS receiver.
Crew reports poor performance of the vessel's current RADAR installation at close range.	Consult with vendors to determine best RADAR model to provide close-in coverage in the restricted waters where the vessel operates.
Crew reports poor visibility through unheated wheelhouse windows.	Consider installation of additional defrosters where necessary.
Installed Hose-McCann sound-powered telephone system does not function properly. There is no voice transmission/reception, only the hand-cranked bell function works. The bell is currently used only as a signaling device between the pilothouse and engine room.	Repair telephone system, or install a functional intercom system.
Shore Power cable rests on deck and vessel rail, creating a tripping hazard and possible chafing damage.	Consider installation of an overhead support for the shore power cable.
Dinghy/rescue boat davit, originally designed for wire rope, currently has a Kevlar rope fall, which is weathered/faded.	Replace boat fall with new wire rope or ultraviolet-protected Kevlar rope.
Coast Guard Documentation expired in 2011.	Consult with National Vessel Documentation Center and DC legal counsel to determine need for and procedures to re-instate documentation.

Firefighting capability is more than adequate, since the vessel is designed and equipped for fighting fires on other vessels and waterfront facilities. Interior fire protection is maintained by the DC Fire Department's own apparatus maintenance facilities, rather than by commercial vendors.	Ensure that at least two (2) Coast Guard approved size B-II fire extinguishers are maintained on board as required by 46 CFR Table 25.30-20(b)(1), based on the vessel's 81 Gross Tons. In addition, ensure that at least two (2) Coast Guard approved size B-II fire extinguishers are maintained in the engine room as required by 46 CFR 25.30-20(c)(2), based on total horsepower (one B-II extinguisher for each 1000 BHP or fraction).
Vessel is equipped with a sewage holding tank, certified by definition as a Type III marine sanitation device. Tank needs routine maintenance.	Open, clean out, inspect, repair as necessary, and paint sewage holding tank.

### SURVEYOR'S NOTES

Repairs and corrections should be accomplished in a workmanlike manner to meet or exceed applicable federal law or published marine industry standards. Where a specific regulation or standard is referenced, it should be consulted to ensure full compliance.

Additional cautions and limitations can be found in SCOPE OF SURVEY and CONDITIONS OF REPORT ACCEPTANCE. No section of this report should be used out of the context of the entire report.

### SUMMARY

The JOHN H. GLENN JR. is a custom-built fireboat which has been owned and operated by at least two municipalities, New York and Washington, during its 50-year service life. It was built to the normal standard of materials and workmanship for vessels of its generation, class, and intended service. It was strengthened for ice operations in 1984, following the Air Florida disaster. It generally appeared to be in average condition for its age. The upcoming drydock examination may reveal the need for costly repairs to the underwater body.

When the recommended repairs and corrections have been carried out, the JOHN H. GLENN JR. should be suited to its intended service with limitations defined by design and construction, provided prudent routine and preventive maintenance is performed, and the vessel is operated by a competent crew with due regard to customary safety practices, good seamanship, and prevailing weather conditions. Most of the listed recommendations involve straightforward action and address conditions commonly found in vessels of similar origin, age, and service experience.

### CONDITIONS OF REPORT ACCEPTANCE

This report is a description of the condition of the subject vessel at the time the survey was performed. The surveyor's observations and opinions are subject to the specific limitations noted in this report.

The undersigned surveyor attests that he has used his best efforts, based on formal

training, field experience, and continuing technical and professional studies, in making a thorough examination, employing only non-invasive and non-destructive testing methods as described in SCOPE OF SURVEY. No guarantees or warranties are made against hidden or obscured defects and/or damage arising at some future time due to those defects. It is assumed that the owner has reviewed the design and construction of the vessel, has determined its suitability for the intended purposes, and is familiar with the vessel's cosmetic condition.

Although the survey was carried out in a professional manner and the surveyor exercised due care and diligence in making a complete inspection, no assurance can be made that every deficiency was discovered within the time allotted for the survey. The facts as discovered and presented in this report are in no way to be deemed a guarantee and/or warranty, either expressed or implied, for the subject boat.

All observations are strictly in the nature of opinion and may be subject to further qualification. Supplements and/or amendments may be offered pending outcomes of recommended additional testing procedures. Use of this report constitutes acceptance of these terms and any other limitations, advisories, and conditions noted.

This report was prepared and submitted in confidence to the person or entity for whom the survey was performed, without prejudice to the rights and/or interests of anyone whom it may concern. No changes or supplements are permitted unless provided by the surveyor of record whose signature appears below. The original report is issued solely to the person or persons on whose behalf it was prepared. Users of this report are advised that only the original and certified copies should be used. These are identified by my seal and blue ink original signature. The accuracy and authenticity of all other copies is not warranted; such copies are accepted at the sole risk of the user.

Third parties desiring to obtain a copy of this report must first contact the person or persons for whom the survey was performed. The surveyor will issue copies of this report only on instruction and with the permission of the original purchaser of the service. Fees for additional copies and transmittal expenses will be charged to the original purchaser.

MARITIME ALLIANCE GROUP, INC.



William M. Riley  
Marine Surveyor

Enclosures: (1) Photographs  
(2) Vessel data from PSIX  
(3) Vessel Documentation Query







Photo Nos. 1 and 2: General views of fireboat JOHN H. GLENN JR.





Photo Nos. 3 and 4: General views of main engines.



Photo Nos. 5 and 6: General views of bilge area below accommodation space.





Photo Nos. 7 and 8: Bilge manifold and typical bilge suction.



Photo Nos. 9 and 10: General views of piping in bilge areas; note green corrosion/leakage at fitting of foam piping.



Photo Nos. 11 and 12: General views of bilge area aft of engine room.





Photo Nos. 13 and 14: Cement patch in forward starboard corner of lazarette.



Photo Nos. 15 and 16: Pitted plating in lazarette.





Photo Nos. 17 and 18: Faded Kevlar boat davit fall.



Photo Nos. 19 and 20: General views of shore power cable.



Photo Nos. 21 and 22: General views of anchor rode storage in forepeak.





Photo Nos. 23 and 24: Recent welded crack repair in forepeak, port side.



Photo No. 25: Aerial view of DC fireboat station.



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File No: B12-317

Port of: Washington, DC

Vessel: Fireboat FB-2

Date: May 21, 2012

Principals: DC Fire Department

Rig: Fast Rescue Boat

### **REPORT OF SURVEY**

#### REQUEST

On May 3, 2012, the undersigned was requested by Deputy Chief John A. Donnelley of the District of Columbia Fire & EMS Department, 1338 Park Road NW, Washington, DC 20010, to attend the fireboat FB-2, Hull Identification Number QME00444M06F, for the purpose of determining this vessel's general condition and principal characteristics, and against these to enter an opinion as to the vessel's suitability for service, and to recommend work items to be performed in any upcoming drydock availability.

This is to certify that on May 10, 2012, the undersigned did attend the subject vessel whereat same lay afloat at 550 Water Street SW, Washington DC 20024. A test run was not conducted. The vessel was in service and manned by its normal crew during our examination.

#### GENERAL PARTICULARS

NAME: FB-2

Home Port: Washington, DC

Hull Identification Number: QME00444M06F

Builder: Metalcraft Marine, Kingston, Ontario

Built: 2006

LOA: 32 ft. 6 inches

Beam: 10 ft. 6 inches

Draft: 22 inches

Displacement: 13,000 pounds

HP: 2x375 HP

General Description: Diesel propelled, jet drive, aluminum hull fireboat

Intended Use: Municipal firefighting, search and rescue

Current Owner: District of Columbia

Underwriter/Insurance Company: Self insured by District of Columbia

Current Insured Value: Not specified

The foregoing particulars are as reported, observed, and as abstracted from the manufacturer's website, and are believed to be correct.

### SCOPE OF SURVEY

The purpose of a marine survey is to determine, insofar as possible within the limitations of visual and physical accessibility, through non-invasive and nondestructive means, the subject boat's structure, systems, cosmetics, and levels of compliance with the applicable Federal and state law as well as commonly accepted industry standards and practices.

Certain parts of a boat's structure, systems, and equipment can only be inspected after removing flats, bulkheads, joinery, headliners, tanks, etc. This would be prohibitively time consuming, potentially destructive, and costly to restore. Components requiring access with tools or by disassembly have not been inspected. Where dirt, marine growth, coatings buildup, or corrosion obscure the surveyor's ability to inspect, this limitation has been noted in the report. Conditions suspected or discovered using nondestructive methods may be further subject to invasive testing for confirmation. No invasive or destructive methods were used during the inspection without the express permission of the boat's owner or owner's representative.

Complete inspection of machinery, plumbing, electrical systems and available equipment can only be made by disassembly or by continuous operation. This has not been done, but may be recommended. No mechanical tests were performed on propulsion or auxiliary generating equipment. No fluid samples were drawn. Only the installation and external condition of machinery and accessory equipment was inspected. This should not be considered a complete mechanical inspection. Qualified marine mechanics experienced with the specific machinery installed should be employed to survey propulsion engines and auxiliary generators. The inspection of flexible piping was limited to the condition of its external casing only, and only where readily accessible for visual inspection.

Electronic and electrical equipment was tested by powering up and observing function. No measurements were taken; no calibrations or adjustments were made. Batteries were not load tested. Only the external condition of electrical wiring, connections, and systems' installation was inspected. No attempt was made to perform a complete analysis of the vessel's electrical systems as to do so would require disassembly with tools, removals, etc., to gain access to



components.

Generally it is our experience that few boats surveyed today meet all of the applicable standards for marine electrical system fabrication and installation. This situation may be further aggravated by the wet and corrosive marine environment, and often by the owner's tolerance for poor installations, "do-it-yourself" add ons, and a general lack of preventive maintenance. Therefore, when the surveyor's limited visual inspection of an electrical system raises significant concern regarding standards compliance, the recommendation will be made to employ a qualified marine electrician for an in-depth inspection. Attention to compliance with electrical standards is critical to avoiding conditions which will lead to fires, explosions, and personal injury or death.

A test run is strongly recommended and conducted if requested by the client. The vessel must be operated by its owner or the owner's authorized agent. If no test run is requested, and if the vessel is afloat, operation of propulsion and auxiliary machinery and the steering system is observed in static mode. If the vessel is blocked ashore, no machinery is operated. Boats in a state of winter lay-up preclude operation of winterized systems.

A boat's systems and component parts have a limited useful life and must be considered perishable. Conditions affecting useful life include original material specifications, fabrication and manufacturing techniques, atmospheric exposures, history of use, etc. These systems and component parts often give no readily detectable external indications of deterioration and impending failure.

When relevant, the surveyor's recommendations are based on U. S Coast Guard Rules and Regulations for Uninspected Vessels, contained in Title 46 of the Code of Federal Regulations, Parts 24-28, as well as the voluntary STANDARDS AND PRACTICES FOR SMALL CRAFT, published by the American Boat and Yacht Council, and NFPA 302: STANDARD FOR PLEASURE AND COMMERCIAL MOTOR CRAFT, published by the National Fire Protection Association. It should be noted that, with the exception of those requirements for vessel identification, safety equipment, accident reporting, and pollution control, much of the current Federal law applies only to vessels equipped with gasoline engines (other than outboard engines) used for electrical or mechanical power.

The foregoing commentary is provided to give readers of this report an understanding of the survey process and its limitations. Since records of the boat's history of use and past maintenance are typically not made available to the surveyor, reported observations are necessarily limited to the boat's condition at the time the survey was performed.

Further qualifying remarks regarding a specific part of the report or its equipment may be found in the text of the report.

### CONDITIONS FOUND/ RECOMMENDATIONS

At the request of Deputy Chief John Donnelly, the undersigned surveyor examined Fireboat FB-2, identified by Hull Identification Number QME00444M06F, at 550 Maine Avenue SW, Washington, DC, afloat. Access to the boat for inspection was granted by Deputy Chief Donnelly, on behalf of the District of Columbia Fire & EMS Department.

Unless noted otherwise, the boat's systems and equipment generally appeared to have been fabricated of materials suited to use in the marine environment, installed in compliance with applicable Federal law and commonly accepted marine industry practices, and appropriate to the boat's usual expected service. Deficiencies and recommendations for their repair or correction are listed throughout the report as applicable.

CONDITION	RECOMMENDATION
Aluminum hull in apparent good condition to the extent it can be examined above the waterline and internally. Vessel is small enough to be hauled out by a crane or travel lift.	Haul out for routine examination and maintenance.
Vessel is propelled by two 375 horsepower Cummins Diesel engines driving waterjet propulsion units. Crew reports that routine haul-outs have revealed accelerated corrosion to the jet drive units.	Retain the services of a specialist to conduct a corrosion analysis to determine whether changes in anodes, bonding, or other corrosion protection measures are needed. One such local specialist is Paul Fleury Marine Services, 301-535-2763.
Vessel is equipped with two Marine VHF radios, both with digital selective calling capability. Neither radio is programmed with a Maritime Mobile Service Identity number or connected to a GPS receiver. Without these features implemented, the radio cannot make DSC calls, and in particular, the automatic distress call function will not work. The radio may not display the identity or location of nearby vessels in distress.	Obtain an MMSI number and program it into both radios; connect both radios to a GPS receiver.
Vessel is neither federally documented nor state numbered. As a public vessel, this may be optional, but MMSI issuing agencies may need a registration number as a prerequisite to issuing the MMSI number.	In the event that a documentation or registration number is required for obtaining an MMSI number, request a pro forma registration number from DC government.
Vessel is equipped with two "Firefox" monitors on the bow and one on the cabin top. These nozzles are designed for remote directional control from the pilothouse. The port bow monitor cannot be controlled remotely from the pilothouse.	Repair port bow Firefox monitor to restore remote control.
Vessel's own interior firefighting needs are met by a Sea-Fire FM-200 fixed fire suppression system in the engine compartment, and hand portable fire extinguishers, which appear to be adequate. Last inspection tag on the fixed fire suppression system is dated 2008; however the pressure gauge does indicate a full charge. Hydrostatic testing of the cylinder would generally be required every 5 years.	Ensure that the fixed fire suppression system is kept serviceable, and that at least one Coast Guard Approved B-I fire extinguisher is maintained on board, in accordance with 46 CFR 25.30-20(a)(1). At any time the fixed system is not serviceable, a second B-I fire extinguisher would be required.

Crew reports leakage around pilothouse sliding side windows, which appear to be of similar quality to those in a recreational vehicle.	Consult with manufacturer and/or local marine/RV dealers for possible repairs/modifications to the window frames.
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### SURVEYOR'S NOTES

Repairs and corrections should be accomplished in a workmanlike manner to meet or exceed applicable federal law or published marine industry standards. Where a specific regulation or standard is referenced, it should be consulted to ensure full compliance.

Additional cautions and limitations can be found in SCOPE OF SURVEY and CONDITIONS OF REPORT ACCEPTANCE. No section of this report should be used out of the context of the entire report.

We searched the U. S. Coast Guard Boating Safety database using the boat's Manufacturer Identification Code, and found no recall notices applicable to this builder. We searched the Boat/US Technical Information Exchange database, and found no defects reported for boats produced by this manufacturer, as of May 15, 2012.

### SUMMARY

Fireboat FB-2 is a "Firestorm" fast response boat custom built by Metalcraft Marine. This manufacturer specializes in work boats, police/patrol boats, and fire boats. It was built to the normal standard of materials and workmanship for vessels of its generation, class, and intended service. It generally appeared to be in average condition for its age.

When the recommended repairs and corrections have been carried out, the fireboat FB-2 should be suited to its intended service with limitations defined by design and construction, provided prudent routine and preventive maintenance is performed, and the vessel is operated by a competent crew with due regard to customary safety practices, good seamanship, and prevailing weather conditions. Most of the listed recommendations involve straightforward action and address conditions commonly found in vessels of similar origin, age, and service experience.

### CONDITIONS OF REPORT ACCEPTANCE

This report is a description of the condition of the subject vessel at the time the survey was performed. The surveyor's observations and opinions are subject to the specific limitations noted in this report.

The undersigned surveyor attests that he has used his best efforts, based on formal training, field experience, and continuing technical and professional studies, in making a thorough examination, employing only non-invasive and non-destructive testing methods as described in SCOPE OF SURVEY. No guarantees or warranties are made against hidden or obscured defects and/or damage arising at some future time due to those defects. It is assumed that the owner has reviewed the design and construction of the vessel, has determined its

suitability for the intended purposes, and is familiar with the vessel's cosmetic condition.

Although the survey was carried out in a professional manner and the surveyor exercised due care and diligence in making a complete inspection, no assurance can be made that every deficiency was discovered within the time allotted for the survey. The facts as discovered and presented in this report are in no way to be deemed a guarantee and/or warranty, either expressed or implied, for the subject boat.

All observations are strictly in the nature of opinion and may be subject to further qualification. Supplements and/or amendments may be offered pending outcomes of recommended additional testing procedures. Use of this report constitutes acceptance of these terms and any other limitations, advisories, and conditions noted.

This report was prepared and submitted in confidence to the person or entity for which the survey was performed, without prejudice to the rights and/or interests of anyone whom it may concern. No changes or supplements are permitted unless provided by the surveyor of record whose signature appears below. The original report is issued solely to the person or persons on whose behalf it was prepared. Users of this report are advised that only the original and certified copies should be used. These are identified by my seal and blue ink original signature. The accuracy and authenticity of all other copies is not warranted; such copies are accepted at the sole risk of the user.

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MARITIME ALLIANCE GROUP, INC.



William M. Riley  
Marine Surveyor

Enclosures: (1) Photographs





***Photo Nos. 1 and 2: General views of fireboat FB-2.***





***Photo Nos. 3 and 4: General views of Fireboat FB-2.***



***Photo Nos. 5 and 6: Fixed fire suppression system in engine compartment.***





*Photo No. 7: General view of engine compartment.*